QC ABSTRACT

NAME OF WORK: Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Block(400*200*200)	BLOCK DENSITY	One Test		1	1
		WATER ABSORPTION	One Test		1	1
		DIMENSION ANALYSIS	One Test		1	1
		COMPRESSIVE STRENGTH	One Test		1	1
6	Brick	Compressive Strength	One Test		1	1
		WATER ABSORPTION	One Test		1	1
		EFFLORESCENCE	One Test		1	1
		DIMENSIONS AND TOLERANCES	One Test		1	1
7	Mortar Sand	Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
		Compacted Bulk Density	One Test		1	1
		Loose Bulk Density	One Test		1	1
		SIEVE ANALYSIS	One Test		1	1
8	Plaster Sand	Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
		SIEVE ANALYSIS	One Test		1	1

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2020-05-31-102** **Date: 18-02-20**
Customer	:	Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08
Agency	:	M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032
Customer's Reference	:	BBMP/EE/BTP/WO/46/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-02-20
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	16-02-20
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.1	–
2	Finess by Air permeablity method (m^2/kg,Min)	284.5	225m^2/kg, Min
3	Density (gm/cc)	3.13	–
4	Standard Consistency (%)	28%	Not specified
5	Initial Setting time	155 minutes	Not less than 30 minutes
6	Final Setting time	260 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	2mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

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Samples will be disposed after 90 days from the date of issue of test certificate

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Authorized Signatory
Quality Manager

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Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2020-05-31-102** **Date: 15-03-20**
Customer	:	Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08
Agency	:	M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032
Customer's Reference	:	BBMP/EE/BTP/WO/46/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-02-20
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	16-02-20
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2020-05-31-102** **Date: 19-02-20**
Customer	:	Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08
Agency	:	M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032
Customer's Reference	:	BBMP/EE/BTP/WO/46/2019-20
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	16-02-20
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	16-02-20

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	214	214	1.4	98.6	90-100
3	20 mm	7254	7468	49.8	50.2	30-70
4	10 mm	4442	11910	79.4	20.6	10-35
5	4.75 mm	2685	14595	97.3	2.7	0-5
6	Pan	405	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2020-05-31-102** **Date: 19-02-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.6	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.3	
3	Specific Gravity	2.64	_
4	Bulk Density(Loose) (Kg/l)	1.49	_
5	Bulk Density(Compacted) (Kg/l)	1.52	_
6	Water Absorption(%)	0.17	_

Note:
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Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

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Authorized Signatory
Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2020-05-31-102** **Date: 18-02-20**
Customer	:	Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08
Agency	:	M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032
Customer Reference	:	BBMP/EE/BTP/WO/46/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-02-20
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	16-02-20

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	237	237	4.7	95.3	90-100
3	10 mm	2544	2781	55.6	44.4	25-55
4	4.75 mm	2107	4888	97.8	2.2	0-10
5	Pan	112	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2020-05-31-102** **Date: 18-02-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.7	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.4	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.53	–
5	Bulk Density(Compacted) (Kg/l)	1.57	–
6	Water Absorption(%)	0.19	–
7	Aggregate crushing Value(%)	25.6	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	22.5	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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Assistant Executive Engineer
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Authorized Signatory
Quality Manager

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2020-05-31-102** **Date: 18-02-20**

Customer : Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08

Agency : M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032

Customer's Reference : BBMP/EE/BTP/WO/46/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 16-02-20

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 16-02-20

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2020-05-31-102** **Date: 18-02-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	_
2	Specific Gravity	2.59	_
3	Material finer than 75 micron(%)	6.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

Note:
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Quality Manager

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Bangalore.

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Format No: CP/TF/2017

TEST REPORT FOR SAND MASONRY MORTARS

Lab ID : **CP-2020-05-31-102** **Date: 04-03-20**

Customer : Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08

Agency : M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032

Customer's Reference : BBMP/EE/BTP/WO/46/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 28-02-20

Sample Type : Fine Aggregate, M.Sand for Mortar

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2116-1980 (RA-2007) (Specification for Sand for Masonry Mortars)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 28-02-20

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS: 2116-1980 (RA-2007)
1	4.75 mm	0	0	0	100	100
2	2.36 mm	85	85	8.5	91.5	90-100
3	1.18 mm	200	285	28.5	71.5	70-100
4	600 micron	146	431	43.1	56.9	40-100
5	300 micron	116.5	547.5	54.8	45.3	5-70
6	150 micron	412.5	960	96.0	4.0	0-15
7	Pan	40	1000	100.0	0.0	0

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TEST REPORT FOR SAND MASONRY MORTARS

Lab ID : **CP-2020-05-31-102** **Date: 04-03-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	3.18	_
2	Specific Gravity	2.51	_
3	Material finer than 75 micron(%)	12.2	Crushed Fine aggregate Max 15%
4	*Compacted Bulk Density (Kg/litre)	1.90	_
5	*Loose Bulk Density (Kg/litre)	1.73	_

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Bangalore

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Format No: CP/TF/2017

TEST REPORT FOR PLASTER SAND

Lab ID	:	**CP-2020-05-31-102** **Date: 03-03-20**
Customer	:	Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08
Agency	:	M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032
Customer's Reference	:	BBMP/EE/BTP/WO/46/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	26-02-20
Sample Type	:	Plaster Sand
Reference to BIS codes	:	IS: 383 : 2016 (Specification for Coarse and fine Aggregates) IS1542:1992 (Sand for Plaster - Specification) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	26-02-20
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS: 2116-1980 (RA-2007)
1	10 mm	0	0	0	100	100
2	4.75 mm	35	35	3.5	96.5	95-100
3	2.36 mm	15	50	5	95	95-100
4	1.18 mm	50	100	10	90	90-100
5	600 micron	100	200	20	80	80-100
6	300 micron	215	415	41.5	58.5	20-65
7	150 micron	500	915	91.5	8.5	0-15
8	Pan	85	1000	100	0	---

CIVIL Pro Sig..... Date..... BANGALORE

TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2020-05-31-102** **Date: 03-03-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.8	_
2	Specific Gravity	2.56	_
3	Material finer than 75 micron(%)	8.5	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

Note:
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Quality Manager

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Assistant Executive Engineer
Kodigehalli Sub Division,
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Bangalore.

CIVIL Pro BANGALORE Sig Date

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Format No: CP/TF/01

TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Lab ID	:	**CP-2020-05-31-102** **Date: 24-02-20**
Customer	:	Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08
Agency	:	M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032
Customer's Reference	:	BBMP/EE/BTP/WO/46/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	21-02-20
Sample Type/Size	:	Solid concrete blocks of size (400X200X200)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2010) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	21-02-20

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185 (Part 1):2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	400	199	199	15840	31.008	1957.5	2011.4	Not less than 1800Kg/m^3
2	404	198	203	16238	33.519	2064.2		
3	405	202	202	16526	33.260	2012.6		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185 (Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.91	32.25	4.89	4.25	Shall not be more than 10% by mass
2	33.57	32.14	4.28		
3	33.44	32.24	3.59		

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Lab ID : **CP-2020-05-31-102** **Date: 24-02-20**

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	404	201	199	**Length : ± 5mm** **Breadth : ± 3mm** **Height : ± 3mm**
2	403	202	202	
3	401	203	200	
4	399	202	199	
5	401	200	202	
6	400	201	202	
7	400	200	203	
8	401	202	201	
9	403	202	199	
10	399	200	199	
11	402	200	199	
12	400	199	203	
13	400	201	199	
14	404	202	203	
15	400	201	203	
16	402	201	199	
17	402	201	201	
18	400	201	202	
19	400	201	199	
20	400	202	201	
Average of 20	**401**	**201**	**201**	

CIVIL Pro Sig..... Date..... BANGALORE

Lab ID : **CP-2020-05-31-102** **Date: 24-02-20**

COMPRESSIVE STRENGTH:

Sl. No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
1	400	201	80552	418.9	5.2	5.3
2	403	202	81466	415.5	5.1	
3	401	203	81221	406.1	5.0	
4	399	202	80643	451.6	5.6	
5	401	200	80270	401.4	5.0	
6	400	201	80463	434.5	5.4	
7	400	200	80105	464.6	5.8	
8	401	202	80902	412.6	5.1	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	Minimum average	Minimum Individual units.
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 90 days from the date of issue of test certificate

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore

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Format No: CP/TF/01

TEST REPORT OF PHYSICAL REQUIREMENTS OF BRICKS

Lab ID	:	**CP-2020-05-31-102** **Date: 23-02-20**
Customer	:	Assistant Executive Engineer,Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Maintanance of Public Toilet at Kodigehalli in ward no 08
Agency	:	M.S.Raju No:18,2nd Main Amarajyothi Layout,Cholanayakanahalli, R.T Nagaa(P) Bangalore-560032
Customer's Reference	:	BBMP/EE/BTP/WO/46/2019-20
Source of sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-02-20
Identification Mark on Brick	:	Wire Cut Brick
Reference to BIS codes	:	IS 1077 : 1992(RA 2011) Common Burnt Clay Building Bricks-Specification IS 3495 (Part 1 to 3) : 1992(RA 2011) Method of Tests Burnt Clay Building Bricks Part 1:Determination of Compressive Strength, (Cl 4.2.3) Part 2:Determination of Water Absorption,(Cl 4.1.3) Part 3: Determination of Efflorescence, (Cl 4)
Date of test	:	17-02-20

COMPRESSIVE STRENGTH

Sl.No.	Length (mm)	Breadth (mm)	Area (mm^2)	Failure Load (KN)	Compressive strength of individual bricks (N/mm^2)	Acceptablity as per IS 1077:1992, Clause 7.1
1	228.13	109.98	25090	206.7	8.2	The bricks shall have a minimum average compressive strength for various classes as given in Table 1 of IS 1077: 1992. The compressive strength of any individual bricks shall not fall below the minimum compressive strength specified for the corresponding class of brick by more than 15%.
2	228.98	108.62	24872	197.6	7.9	
3	231.01	107.99	24947	201.3	8.1	
4	230.11	107.54	24746	199.5	8.1	
5	228.16	106.98	24409	194.6	8.0	
Average of 5 bricks					**8.1**	

CIVIL Pro Sig Date BANGALORE

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

Lab ID : **CP-2020-05-31-102** **Date: 23-02-20**

WATER ABSORPTION:

Sl.No.	Dry Weight	Wet Weight	Water Absorption(%)	Acceptablity as per IS 1077:1992, Clause 7.2
1	2.975	3.265	9.7	The water Absorption of bricks shall not be more than 20% by weight upto class 12.5 and 15% by weight for higher classes.
2	2.868	3.176	10.7	
3	2.906	3.196	10.0	
4	2.976	3.275	10.0	
5	2.875	3.218	11.9	
Average Water Absorption(%)			10.5	

EFFLORESCENCE:

Sl.No.	Length (mm)	Breadth (mm)	Area (mm^2)	Efflorescence	Acceptablity as per IS 1077:1992, Clause 7.3
1	229.18	108.98	24976	Slight	The efflorescence shall not be more than 'moderate" upto class 12.5 and "slight" for higer classes.
2	228.98	109.18	25000	Moderate	
3	228.18	108.39	24732	Slight	
4	230.19	107.98	24856	Moderate	
5	228.13	109.19	24910	Slight	

DIMENSIONS AND TOLERANCES

Sl.No.	Dimensions obtained for 20 bricks(mm)		Acceptability as per IS 1077:1992, Clause 6.2(b)
1	Length	4610	4520 to 4680 mm
2	Width	2185	2160 to 2240 mm
3	Height	1390	1360 to 1440 mm

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CIVIL Pro Sig. Date BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

JE 08

Assistant Executive Engineer.
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

****End of Report****